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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,374	10/03/2003	Peter J. Pupaiaikis	455610-2600.1	4020
20999	7590	05/05/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			TSAI, CAROL S W	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/678,374

Applicant(s)

PUPALAIKIS ET AL.

Examiner

Carol S. Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 8, 10, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,125,100 to Katznelson.

With respect to claims 1 and 2, Katznelson discloses a digital group delay compensation system comprising: a digital allpass filter that is utilized in an implementation phase; and a system that generates coefficients for the allpass filter used in the implementation phase such that the overall performance of a system is measured and optimized in a calibration phase (see col. 18, line 39 to col. 19, line 33 and col. 20, line 33 to col. 21, line 6).

As to claim 3, Katznelson also discloses the definition of optimum overall performance of a system is user configurable and based on the measured amount of risetime, overshoot, and preshoot in the system step response and as such the optimization balances these three characteristics (see col. 18, lines 25-38).

As to claim 5, Katznelson also discloses the response of the uncompensated

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system to a stimulus is calculated using an internally generated ideal stimulus and the measured uncompensated channel response characteristics (see Figs. 2 and 3 and col. 6, lines 9-40).

As to claims 8 and 13, Katznelson also discloses in the calibration phase, the response of the uncompensated system to a known stimulus being measured such that the known stimulus passes through additional hardware connected to the channel, such as a probing element, to include the effects of this additional hardware in the compensation (see col. 7, lines 42-68).

As to claims 10 and 11, Katznelson also discloses the calibration phase being entered periodically allowing dynamic calibration for changing channel response characteristics (see col. 6, lines 9-40).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katznelson in view of U. S. Patent No. 6,532,256 to Miller.

As noted above, Katznelson discloses the claimed invention, except for the allpass filter arrangement being a polyphase arrangement capable of filtering the response of the uncompensated system to a known stimulus with an allpass filter designed for a different sample rate while preserving the sample rate of the response of the uncompensated system to the known stimulus.

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Miller teaches the allpass filter arrangement being a polyphase arrangement capable of filtering the response of the uncompensated system to a known stimulus with an allpass filter designed for a different sample rate while preserving the sample rate of the response of the uncompensated system to the known stimulus (see col. 29, lines 30-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Katznelson's method to include the allpass filter arrangement being a polyphase arrangement capable of filtering the response of the uncompensated system to a known stimulus with an allpass filter designed for a different sample rate while preserving the sample rate of the response of the uncompensated system to the known stimulus, as taught by Miller, in order that some of the de-rotation coefficients in the de-rotation matrix are adjusted to compensate for the frequency-dependent distortion in the transmission path (see Miller, col. 29, lines 39-42).

Allowable Subject Matter

6. Claims 4, 6, 7, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed March 28, 2005 have been fully considered but they are not persuasive.

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Applicants argue that Katznelson teaches away from the subject matter of the claimed invention because at column 21, lines 25 - 33, Katznelson states: The system can also be used in standard CATV coaxial applications. However, the benefits' will depend on group delay distortions in the system, as the optimal phase relationships may gradually deteriorate down the amplifier cascade and that the signal of FIG. 3 may be representative of the waveforms used in this application wherein auxiliary carriers cannot be carried further downstream on the CATV network due to amplifier and coaxial cable bandwidth limitations. The Examiner disagrees with Applicants. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Applicants argue that Katznelson does not disclose a digital allpass filter. “This invention therefore involves the development and insertion of a digital signal processing (DSP) element (or digital filter) in the signal path of a sampled system, between the ADC and any other downstream processing of the digitized waveform”, as described at page 4, lines 4-6 and of Applicants' Specification, clearly indicate that either a digital signal processing (DSP) element or digital filter can be inserted in the signal path of a sampled system for utilizing in an implementation phase that is in consist with the subject matters of “The controller 170 includes a control unit 172 to control the operation of the other controller functions. The control unit 172 preferably comprises the combination of a microprocessor (not shown) and a digital signal processor (DSP) (not shown). The combination of a microprocessor and DSP may be embodied

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as a single unit such as, for example, a Texas Instruments TMS30C30. The control unit 172 generates signals indicative of incremental phase changes for each carrier across a phase control line 174 to a phase variable comb generator 176. The microprocessor controlled phase variable comb generator 176, unlike standard comb generators, provides a set of N phase reference lines 178. Each phase reference line 178 carries a frequency signal corresponding to a cable television carrier. The phases of the signals generated by the comb generator 176 are individually controlled by the microprocessor of the control unit 172” as described at col. 7, lines 26-40.

Theresfore, as set forth above in the art rejection, Katznelson does disclose a digital allpass filter.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.



Carol S. W. Tsai
Primary Examiner
Art Unit 2857

05/02/05